Submitted via comment portal at pcouncil.org

September 2, 2020

Marc Gorelnik, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220

Barry Thom, Regional Administrator
National Marine Fisheries Service

Re: September 2020 Meeting; H.3 Situation Summary: Southern Resident Killer Whale ESA Consultation

Dear Administrator Thom, Chair Gorelnik and Council Members:

On behalf of the groups signed below, please accept the following comments for consideration by the Pacific Fisheries Management Council (PFMC, Council) at the September 2020 meeting. We offer these comments with respect to agenda item H.3 Situation Summary: Southern Resident Killer Whale (SRKW or Southern Residents) ESA Consultation.

We acknowledge the time that the SRKW Ad Hoc workgroup (Workgroup) has spent discussing the effects of PFMC ocean salmon fisheries and appreciate the Workgroup's publication of the risk assessment completed in May 2020 and the Draft Range of Alternatives and Recommendations in August 2020. We support the Council taking immediate action to adopt alternatives for a threshold, or floor, for low Chinook salmon abundance that automatically triggers a pre-identified response. That said, along with the alternatives for immediate action, the Council must commit to improving measures to monitor and manage salmon stocks for the benefit of Southern Residents. Current data collection and analysis fail to ensure that fishery impacts do not jeopardize Southern Residents.

I. SRKW Need Immediate Harvest Mitigation Measures To Increase Prey

With four Southern Residents reported missing and assumed dead since August 2019, now only 73 Southern Residents remain in the wild (Center for Whale Research 2019). This is their lowest number in four decades, and they have likely lost at least one additional orca since the most recent census (*id.*, Mapes 2020). The Southern Resident recovery goal of an annual average 2.3% growth rate over 28 years, as defined by NOAA, is not being met and neither are the recovery goals of threatened Chinook prey.

The health of Southern Residents is strongly tied to Chinook salmon abundance in the Pacific Northwest and California. These specialized predators evolved in the Northeast Pacific Ocean

side-by-side with salmon over tens of thousands of years (Foote et al. 2011). They hunt cooperatively, and they engage in prey sharing between females and younger whales 76% of the time (Ford and Ellis 2006).

Research has established that Chinook comprises the majority – up to 80% – of the Southern Residents' diet in the summer months, primarily runs returning to the Fraser River and Puget Sound watersheds (Ford et al. 2016, Hanson et al. 2010). Coho and chum salmon are also seasonally important, and while the Southern Residents' diet appears to diversify and include greater amounts of these types of salmon during coastal foraging periods, Chinook is still the primary component, identified in over 50% of prey and fecal samples collected in coastal waters (NMFS 2015, NMFS 2014). Data compiled from passive acoustic monitoring, satellite tagging, opportunistic sightings and boat-based surveys show areas of high occurrence off the mouth of the Columbia River and the northern California coast, and indicate that the movements of Southern Residents in coastal waters are likely driven by the seasonal timing of Chinook salmon returns to major river systems, including the Columbia, Klamath, and Central Valley Rivers (Hanson et al. 2018; NMFS 2019).

Scientists have found a strong correlation between coastwide Chinook abundance and Southern Resident health indicators: as Chinook abundance declines, the Southern Residents show reductions in growth rates, adult length, social cohesion, fecundity, and overall survival, as well as impaired individual body condition (NMFS 2019, Fearnbach, H. et al. 2018, Ford et al. 2010, Ford et al. 2005, Groskreutz et al. 2019, Ward et al. 2009). Perhaps most notably, a high rate of pregnancy failure in the population has been linked to nutritional stress, with 69% of detected pregnancies between 2008 and 2014 ultimately unsuccessful, severely impacting the population's ability to recover (Wasser et al. 2017).

As stated above, a strong body of science shows Southern Resident births and deaths are closely linked with coastwide Chinook abundance. With lower Chinook abundance, fecundity decreases and mortality increases (Ward et al. 2009, Ford et al. 2010). Recent low Chinook salmon returns have been perilous for the Southern Residents. There were no successful Southern Resident births from 2016 to 2018 and half of the ten Southern Residents born in the 2014/ 2015 "baby boom" later died (*e.g*. from September 2014 to January 2016, of the ten identified calves born, five died).

With recent reports of pregnant Southern Residents in all three pods, we remain optimistic for more calves to be born into this vulnerable population, but only cautiously so given high calf mortality and the high rate of late pregnancy failure that has been linked to low availability of Chinook salmon (Wasser et al. 2017). What is more, Southern Residents have high newborn mortality rates; around 40% of known calves do not survive past the first year, according to the Center for Whale Research.

Population viability examining the likelihood of extinction shows that recovery and reproductive potential of Southern Residents is slipping away. In 2015, the probability that the 80 Southern Residents alive at the time would be functionally extinct in 100 years was 9% (Lacy et al. 2017). Since 2015, the risk of extinction has increased. In 2020, the chance the 72 whales alive now will be functionally extinct within a century is 59% (Lacy 2020). The abundance and quality of their primary prey, and the accessibility of this prey, are key reasons these whales face extinction.

The full body of science and empirical evidence of Southern Resident decline indicates broad and bold actions must be taken now to prevent extinction. We urge the Pacific Fishery Management Council to be part of the solution by adopting precautionary conservation and management measures for ocean salmon fisheries that minimize risk to the endangered Southern Residents and promote growth and recovery of the population.

II. The Highest Salmon Abundance Threshold Could Minimally Protect Southern Residents While the Workgroup Continues To Improve Its Impacts Analysis.

The Workgroup's draft range of alternatives focuses on establishing a threshold, or floor, for low pre-fishing Chinook salmon abundance. The Workgroup based this alternative on the concept that at low, but undetermined, Chinook salmon abundances, salmon are insufficient to allow successful foraging for Southern Residents. The Workgroup identified several thresholds for low salmon abundance, starting at the lowest modeled salmon abundance (1994) and ending at the range of abundances 1995-2000, which are years in which reduced body size was observed in both Southern Residents and Northern Resident killer whales (Groskreutz et al. 2019, Fearnbach et al. 2011), and the Southern Residents were in a period of decline that led to their listing under the ESA. These years in which modeled salmon abundance was so low that nutritional stress was suspected in Southern Residents, however, is not protective of the endangered population.

The Council should consider an alternative for a threshold set during years when Southern Residents did not exhibit nutritional stress. Rather than approximating the lowest salmon abundance, one threshold should approximate a salmon abundance that supports the higher bounds of fecundity, survival, improved body condition and recovery of the population.

Additionally, the Council should analyze and consider benefits to Southern Residents from no ocean salmon harvest, and/or closing the fishery unless the pre-season estimate of Chinook abundance is above a threshold that ensures adequate prey availability. This would provide a baseline of the most protective measures with which the effects of additional alternatives can be compared. These alternatives that clearly protect Southern Residents would increase public awareness regarding the impacts of ocean salmon harvest and improve the public's ability to evaluate the alternatives. We support tribal treaty laws and recognize that these management measures will be subject to sovereign nation consultation and potentially modified at a later date.

The consideration of threshold alternatives that are not limited to low abundance years will provide at least one option that potentially prevents harm to Southern Residents and clarifies the cost to the whales of fishing. Such an alternative would reverse the burden of proof from the whales to the fisheries to ensure that any harvest beyond that protective threshold would not harm Southern Residents (*see, e.g.,* Dayton 1998).

III. Management Measures Must Be Triggered Automatically

To ensure protections for Southern Residents, thresholds should trigger automatic management actions. The Workgroup identifies potential responses in section 3.1.2.e, such as further limiting non-treaty Chinook quotas, changing the fishery structure in May and June to allow more quota allocation in later months, and implementing non-treaty Area closures. The draft alternatives do not identify how the Council or NMFS would select the management measures. We strongly recommend that the Council choose alternatives with pre-set management measures.

For example, the Council should consider an alternative in which when the salmon abundance reaches the threshold, NMFS prohibits ocean salmon fishing in the proposed Southern Resident critical habitat North of Cape Falcon, and delays the opening of commercial and recreational ocean fisheries South of Cape Falcon until June, when the Southern Residents are less likely to be foraging in that area. This management measure should be tied to the threshold selected.

Finally, to implement a time and area closure in Southern Resident foraging hotspots, the Council and NMFS must require vessel monitoring systems on commercial ocean salmon fishing vessels and collect refined spatial data on ocean salmon recreational fisheries to better understand the overlap of ocean salmon fisheries and Southern Resident foraging areas.

IV. The Council and NMFS Must Improve Monitoring and Management of Salmon Stocks To Benefit Southern Residents

The Workgroup discussions highlighted the limitations of information currently provided by the fishery. We support the Workgroup's recommendation 3, to develop an age-structured stock assessment using cohort reconstruction data. We also urge the Council and NMFS to (1) collect stock-specific harvest information, (2) disclose incidental salmon mortality in other fisheries, and (3) analyze fishery operation transformations that potentially could recover salmon stocks and benefit Southern Residents.

First, we ask the Council to direct NMFS to develop and implement a genetic stock identification sampling program for ocean salmon fisheries to improve the scientific basis for Pacific salmon management and to advance Southern Resident conservation.

Second, we ask the Council to recommend that NMFS document the data they use for the rate of incidental salmon mortality in this and other fisheries that is used in abundance models. As

part of this improvement in transparency, NMFS should describe the geographic range of salmon catch assessed.

Finally, the Council and NMFS should analyze the impacts of moving non-treaty PFMC ocean salmon fishery in the EEZ north of Falcon (if not from central California to the Canadian border) to terminal areas at and near the mouths of rivers. This analysis would show whether: (1) the PFMC ocean salmon fishery can collect more information, which could lead to salmon recovery (for example, by more closely tying the catch to separate salmon stocks), (2) there would be benefits to Southern Residents that justify such a change or whether concentrating fishing in foraging hotspots will impact behavior, and (3) potential impacts to treaty fisheries could be assessed and minimized.

Conclusion

We appreciate your consideration of these comments and look forward to discussing them further with you at the upcoming Workgroup and Council meetings. Many of these suggestions have been previously submitted to the Workgroup in comment letters. We ask that future Workgroup meetings include a public comment period.

Sincerely,

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